DEMIDOVA, Z.A.

Distribution and biology of Sclerotinia graminearum Elenev infecting winter rye in Sverdlovsk Province. Trudy Inst. biol. UFAN SSSR no. 15:17-45 '60. (MIRA 13:10)
(SVERDLOVSK PROVINCE—RYE—DISEASES AND PESTS)
(FUNGI, PHYTOPATHOGENIC)

DEMIDOVA,/Z.A.

House fungi in buildings of the Ural Mountain region. Trudy Inst. biol. UFAN SSSR no.17:5-25 '60. (MIRA 14:4)
(URAL MOUNTAIN REGION—WOOD-DECAYING FUNGI)

DEMIDOVA, Z.A.

Ammonium fluosilicate as antiseptic in the control of house fungi. Trudy Inst. biol. UFAN SSSR no.17:27-43 '60. (MIRA 14:4)
(WOOD-DECAYING FUNGI) (AMMONIUM FLUOSILICATES)

DEMIDOVA, Z.A.

Diffusion impregnation of wood with ammonium fluosilicate. Trudy Inst. biol. UFAN SSSR no.17:55-71 '60. (MIRA 14:4)
(WOOD--PRESERVATION) (AMMONIUM FLUOSILICATES)

DEMIDOVA, Z.A.; KHRENOVA, G.S.

Emulsion prepared from by-products of the benzol industry and its toxic properties upon house fungi. Trudy Inst. biol. UFAN SSSR no.17:123-127 '60. (MIRA 14:4)
(WOOD-DECAYING FUNGI) (WOOD PRESERVATIVES)

DEMIDOVA, Z.A.

Flora of rust fungi in the Urals. Trudy Inst.biol.UFAN SSSR. no.28:111-118 '62. (MIRA 16:1)
(Ural Mountains--Rusts (Fungi))

DEMIDOVA, Zinaida Afanas'evna; PETRI, V.N., prof., otv. red.;
ARDASENOVA, L.P., red. izd-va; PAL'MIN, M.Z., tekhn. red.

[Basidiomycetes injurious to the trees of the Urals; materials on the mycology of the Urals. Vol. 1.]. Basidial'nye griby, porazhaiushchie drevesinu na Urale; materialy po mikologii Urala. Sverdlovsk. Vol. 1. 1963. 48 p. (Akademiia nauk SSSR. Ural'skii filial. Institut biologii. Trudy, no.32).
(MIRA 16:6)
(Ural Mountains--Basidiomycetes)

BARBUKOVA, V.I., kand. ist. nauk; DEMIDOVA, Z.F., kand. ist. nauk; POSELYANINA, O.K., kand. ist. nauk; SORIN, Yu.N., kand. ist. nauk; SHATVOROVA, V.D., kand. ist. nauk; KHRUSHCHEV, V.I.; STARODUBTSEV, N.I.; **SHVETS, I.Ye.; TOROPCHIN, N.S., red.; IVANOVA, R.N., tekhn. red.**

[Krasnyi Aksay; from the history of the M.V.Frunze Rostov Plant of Agricultural Machinery]Krasnyi Aksai; iz istorii Rostovskogo zavoda sel'skokhoziaistvennogo mashinostroeniia imeni M.V.Frunze. Rostov-na-Donu, Rostovskoe knizhnoe izd-vo, 1962. 158 p. (MIRA 15:9)

1. Prepodavateli Rostovskogo gosudarstvennogo universiteta (for Barbukova, Demidova, Poselyanina, Sorin, Shatvorova). 2. Otvetstvennyy sekretar' mnogotirazhnoy gazety "Krasnyy aksayets" (for Khrushchev). 3. Zaveduyushchiy kabinetom politicheskogo prosveshcheniya partiynogo komiteta Rostovskogo zavoda sel'skokhozyaystvennogo mashinostroyeniya "Krasnyy Aksay" (for Starodubtsev). 4. **Rabochiy remontno-mekhanicheskogo** tsekha Rostovskogo zavoda sel'skokhozyaystvennogo mashinostroyeniya "Krasnyy Aksay" (for Shvets).
(Rostov-on-Don—Agricultural machinery)

DEMIDOVA-PANFEROVA, R. M., Cand Tech Sci -- (diss) "Potentiometers for audible frequencies and the application of them for measurements of parameters of electric circuits." Moscow, 1960. 18 pp; 1 page of schematics; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Order of Lenin Power Inst); 250 copies; price not given; (KL, 21-60, 123)

DEMIDOVICH, A.

M-5

USSR/Cultivated Plants. Potatoes. Vegetables. Melons

Abs Jour : Ref Zhur - Biol., No 1, 1958, No 1561

Author : A. Demidovich, O. Dmitryuk
Inst : Not Given
Title : Problems in Potato Raising

Orig Pub : S.kh. Tatarii, 1956, No 2, 18-21

Abstract : Examination of summer planting problems with unripe potato tubers in the Tatar ASSR and of the effect of low temperatures on tubers. The author assumes that certain forms of cultivated potatoes have been obtained through cultivated potatoes having been crossed with the South American species, Solanum andigenum, and these forms, therefore, rapidly develop tubers. The crop yield is also boosted by cultivating potatoes from unripe tubers. By the method of planting unripe tubers at the Tatar Vegetable-Potatoe Station, the Lorch and Woltmann varieties were improved. For the purpose of obtaining first-frost resistant varieties of potatoes, the Kazan Agricultural Institute has carried out a study on the effect of low temperatures

Card : 1/2

USSR/Cultivated Plants. Potatoes, Vegetables, Melons. M

Abs Jour: Ref Zhur-Biol., No 17, 1958, 77662.

Author : Demidovich, A.F.
Inst :
Title : Peculiarities of Growing Potato for Seed in the Tatar ASSR.

Orig Pub: Kartofel', 1957, No 6, 34-38.

Abstract: On the basis of experiments and observations for many years, it was established that in conditions of unfavorable weather during vegetation of potatoes, the appearance of changing shoots and tubers is observed. Tubers which have not intergrown and taken from September harvests should be used for seed purposes. Good results in seed growing of potatoes are gained from summer planting. Experiments with raising plants from tubers formed in

Card : 1/2

M

USSR/Cultivated Plants. Potatoes, Vegetables, Melons.

Abs Jour: Ref Zhur-Biol, No 17, 1958, 77654.

Author : Demidovich, A. F.
Inst :
Title : Features of Potato Seed Growing in Tatariya.

Orig Pub: Tatarstan avyl khuzhalygy, 1957, No 9, 23-27,
S. kh. Tatarii, 1957, No 9, 23-27.

Abstract: Diseases of potatoe ,rot which are often met in the ecological conditions of Tatariya are described in general. The author denies the presence of the so-called virus diseases and considers that for the sanitation of the planted material of potato varieties, it is necessary to make wide use of selection for seeding purposes of immature

Card : 1/2

DEMIDOVICH, A.F., prof., doktor sel'khoz. nauk; DEMIDOVICH, V.A., agronom; KURAMSHIN, T.V., red.; SAGITOVA, S.G., tekhn. red.

[Seed potato production and its particular aspects in the Tatar A.S.S.R.] Semenovodstvo kartofelia i ego osobennosti v Tatarskoi ASSR. Kazan', Tatarskoe knizhnoe izd-vo, 1960. 110 p. (MIRA 14:9)

(Tatar A.S.S.R.—Seed potatoes)

DEMIDOVICH, A.V

KHODAKOVSKIY, V.V.; YEFIMOV, V.A., kand. tekhn. nauk, starshiy nauchnyy rabotnik; KOSENKO, P.Ye., kand. tekhn. nauk; KAZAKEVICH, S.S.; LAPITSKIY, V.I., prof., doktor tekhn. nauk; FILIP'YEV, O.V.; STROGANOV, A.I., kand. tekhn. mnk, dots.; ~~DEMIDOVICH, A.V.~~; BORNATSKIY, I.I., kand. tekhn. nauk; MEDZHIBOZHSKIY, M.Ya., dots.; KOCHO, V.S., prof., doktor tekhn. nauk; RYN'KOV, V.I.; LOMAKIN, L.M., mladshiy nauchnyy sotrudnik; KOKAREV, N.I., dots.; KLYUCHAREV, A.P.; PLYUSHCHENKO, Ye.A.; KAPUSTIN, Ye.A., kand. tekhn. nauk, dots.; KOBEZA, I.I., kand. tekhn. nauk, nauchnyy sotrudnik; SHIROKOV, G.I.; UMRIKHIN, P.V., prof., doktor tekhn. nauk; LEZHAVA, K.I.; ZHIGULIN, V.I.; MOROKOV, P.K.; KHLEBNIKOV, A.Ye., prof., doktor tekhn. nauk, starshiy nauchnyy sotrudnik; TARASOV, N.S.; NIKOLAYEV, A.G.

Discussions. Biul. TSNIICHM no.18/19:40-66 '57. (MIRA 11:4)

1. Starshiy inzhener Glavspetsstali Ministerstva chernoy metallurgii SSSR (for Khodakovskiy). 2. Institut gaza (for Yefimov). 3. Direktor Dneprodzerzhinskogo metallurgicheskogo instituta (for Kosenko). 4. Nachal'nik laboratorii Leningradskogo instituta ogneuporov (for Kazakevich). 5. Zaveduyushchiy kafedroy metallurgii stali Dnepropetrovskogo metallurgicheskogo instituta (for Lapitskiy). 6. Nachal'nik laboratorii Giprostali (for Filip'yev). 7. Chelyabinskiy politekhnicheskiy institut (for Stroganov). 8. Nachal'nik teplotekhnicheskoy laboratorii Severskogo metallurgicheskogo zavoda (for Demidovich). 9. Zamestitel' nachal'nika TSentral'noy zavodskoy laboratorii Makeyevskogo metallurgicheskogo zavoda (for Bornatskiy).

(Continued on next card)

KHODAKOVSKIY, V.V.---(continued) Card 2.

10. Sibirskiy metallurgicheskiy institut (for Medzhibozhskiy). 11. Zaveduyushchiy kafedroy metallurgii stali Kiyevskogo politekhnicheskogo instituta (for Kocho). 12 Ispolnyayushchiy obyazannosti glavnogo inzhenera Beloretskogo metallurgicheskogo kombinata (for Ryn'kov). 13. Vsesoyuznyy nauchno-issledovatel'skiy institut metallurgicheskoy teplotekhniki (for Lomakin). 14. Ural'skiy politekhnicheskiy institut (for Kokarev). 15. Zamestitel' nachal'nika teplotekhnicheskoy laboratorii Nizhne-Tagil'skogo metallurgicheskogo kombinata (for Klyucherov). 16. Nachal'nik teplotekhnicheskoy laboratorii TSentral'noy zavodskoy laboratorii zavoda im. Voroshilova (for Plyushchenko). 17. Zhdanovskiy metallurgicheskiy institut (for Kapustin). 18. Institut metallurgii im. Baykova AN SSSR (for Kobeza). 19. Nachal'nik laboratorii martenovskikh pechey Vsesoyuznogo nauchno-issledovatel'skogo instituta metallurgicheskoy teplotekhniki (for Shirokov). 20. Zaveduyushchiy kafedroy metallurgii stali Ural'skogo politekhnicheskogo instituta (for Umrikhin). 21. Nachal'nik metallurgicheskoy laboratorii TSentral'noy zavodskoy laboratorii Zakavkazskogo metallurgicheskogo zavoda (for Lezhava). 22. Zamestitel' glavnogo inzhenera zavoda im. Petrovskogo (for Zhigulin). 23. Nachal'nik martenovskogo tsekha Kuznetskogo metallurgicheskogo kombinata (for Morokov). 24. Institut metallurgii im. Baykova AN SSSR (for Khlebnikov). 25. Glavnyy inzhener Petrovsk-Zabaykal'skogo metallurgicheskogo zavoda (for Tarasov). 26. Nachal'nik tsekha Magnitogorskogo metallurgicheskogo kombinata (for Nikolayev).

(Open-hearth process)

LISIYENKO, V.G.; POLZUNOV, A.M.; KITAYEV, B.I.; DEMIDOVICH, A.V.;
KOKAREV, N.I.; CHERNOGOLOV, A.I.

Results of research on the efficiency of a mazut flame jet.
Izv. vys. ucheb. zav.; chern. met. 6 no.10:139-148 '63.
(MIRA 16:12)

1. Ural'skiy politekhnicheskiy institut.

AUTHORS: Zakharikov, N. A., Pioro, L. S., Demidovich, B. K., Zaliznyak, D. V. 72-58-3-2/15

TITLE: The Annealing of Glass Tubes (Otzhig steklyannykh trub)

PERIODICAL: Steklo i Keramika, 1958, Nr 3, pp. 5-8 (USSR)

ABSTRACT: It was experimentally proved that with drawing of tubes of 50 mm diameter from ordinary glass (of the type of window-glass) at a speed of 70 to 75 m per hour, the residual stresses amount to 20 to 50 mμ/cm per 1 mm of the tube-wall thickness after cooling in the engine shaft. With drawing of the same tubes from glass poor in alkali, at a speed of 90 to 95 m per hour, the residual stresses attain 30 to 70 mμ/cm per 1 mm thickness of the tube-wall. The velocity of drawing of tubes of 50 mm diameter amounts to 90 to 100 of running meters per hour. The output of the engine could be increased if it would be possible to achieve the first annealing of the tubes in the engine-shaft and to carry out the subsequent annealing in special plants. The subsequent annealing is at present carried out in a furnace the capacity of which is smaller than that of the engines, so

Card 1/3

that part of the current tube-production remains unannealed on stock in the glassworks at Gomel'. Tests were carried out with a gas annealing furnace which was developed with the assistance of G. F. Martynyuk and I. A. Shilov and which operated according to a principle which is different from the existing one. In this furnace, the glas-tubes are simultaneously heated both from inside and outside by means of blowing by combustion gases, by which the efficiency of the annealing-process increases, as well as the quality of the tubes, due to a more uniform heating. A formula with a coefficient K which depends on the diameter and on the lengths of the tubes, as well as on the velocity of combustion gases is given for the computation of temperature, as may be seen from figure 1. This furnace is represented in figure 1 and is designed for the operation of 2 mechanical equipments. Further, the construction and the operation of the furnace are fully described. The glass-tubes are vertically located in a container and conveyed into the chambers of the furnace by means of trucks. The furnace has 4 chambers and the annealing scheme is divided into 4 equal periods. This furnace has been in operation for a period of 11 months during which 72 kilometers of tubes were annealed.

Card 2/3

The Annealing of Glass Tubes

72-58-3-2/15

The measured values of the residual stresses are given in table 2. The temperatures of the conbustion gases at the input and output of the sets of tubes are given in figure 2. There are 2 figures and 2 tables.

ASSCCIATION: Institut ispol'zovaniya gaza AN USSR (Institute for Gas-Utilization AS Ukrainian SSR) Gomel'skiy stekol'nyy zavod (Gomel' Glassworks)

1. Glass tubing--Heat treatment

Card 3/3

DEMIDOVICH, Boris Konstantinovich; KHANTIL', Vera Ivanovna;
BEREZOVSKIY, Viktor Il'ich; PONOMAREV, M., red.;
VANCHUK, L., r

[Improvement of the technology of lime production in rotary kilns] Sovershenstvovanie tekhnologii proizvodstva izvesti vo vrashchaiushchikhsia pechakh. Minsk, Izd-vo "Belarus'," 1964. 34 p. (MIRA 18:6)

DEMIDOVICH, B. P.

O nekotorykh dostatochnykh usloviya kh sushchestvovaniya integral'nogo invarianta.
matem. SB., 3(45), (1938), 291-311

SO: Mathematics in the USSR, 1917-1947
edited by Kurosh, A. G.
Markushevich, A. I.,
Rashevskiy, R. K.
Moscow-Leningrad, 1948

DEMIDOVICH, B. P.

Demidovič, B. P. Periodic solutions of nonlinear systems of the second order of ordinary differential equations whose second members are periodic relatively to the independent variable. Doklady Akad. Nauk SSSR (N.S.) 61, 601–603 (1948). (Russian)

The author considers systems of the form

$$(1)\qquad \dot x = f_{10} + x f_{11} + y f_{12},\quad \dot y = f_{20} + x f_{21} + y f_{22},$$

where the f are real continuous functions of x, y, t, periodic in t of period T, such that $f_{i0} = o(r)$ uniformly when $r^2 = x^2 + y^2 \to \infty$ and such that the solution of (1) through any (x_0, y_0, t_0) is unique and exists for $-\infty < t < +\infty$. Let (1′) be the "abbreviated" system obtained from (1) by dropping the terms f_{i0}. Lemma. Let $U = Ax^2 + 2Bxy + Cy^2$ be a positive definite form with constant coefficients whose derivative $\dot U = dU/dt$ (by virtue of (1′)) satisfies $\inf \dot U/r^2 > 0$ for $r \geq r_0$. Then (1) has at least one periodic solution of period T.

The following theorems are consequences of the lemma. (I) Let $\lambda_i = \lambda_i(t, x, y)$ $(i = 1, 2)$ be the characteristic roots of the matrix (f_{ij}) $(i, j = 1, 2)$. Suppose that, for $r \geq r_0$, (i) the real parts of the λ_i have the same and constant sign and $|\Re\lambda_1 + \Re\lambda_2| = |f_{11} + f_{22}| \geq \alpha > 0$; (ii) $0 < |\lambda_1 - \lambda_2| < \beta|\lambda_1 + \lambda_2|$, where β is a constant which lies between 0 and 1 if the λ are real; (iii) $k_1 = \lim 2f_{12}/(f_{11} - f_{22})$ and $k_2 = \lim 2f_{21}/(f_{11} - f_{22})$ exist uniformly as $r \to \infty$; (iv) $k_1 k_2 + 1 \neq 0$. Then (1) has at least one periodic solution of period T. (II) The same is true if assumptions (ii) and (iii) are replaced by: (ii′) $|f_{11} - f_{22}| \leq \beta_1 |f_{11} + f_{22}|$, β_1 constant; $f_{11} f_{22} - f_{12} f_{21} \geq \gamma |f_{11} + f_{22}|^\delta$, γ, δ constants, $\gamma > 0$, $1 \leq \delta \leq 2$; (iii′) constants k_1, k_2 exist such that, for $r \to \infty$, we have uniformly $f_{12} = k_1 d + o(|d|^{\delta/2})$, $f_{21} = k_2 d + o(|d|^{\delta/2})$, where $d = (f_{11} - f_{22})/2$.

The reviewer observes that the lemma, which the author deduces from Schauder's fixed point theorem, can be easily obtained from a theorem by Levinson [Ann. of Math. (2) 45, 723–737 (1944); these Rev. 6, 173]. No proofs are given.

J. L. Massera (Montevideo).

Source: Mathematical Reviews, Vol. 10 No. 4

DEMIDOVICH, B.P.

Demidovič, B. P. The vibration of bars bent into an arc of a circle. Akad. Nauk SSSR. Inženernyĭ Sbornik 5, no. 2, 112–132 (1949). (Russian)

The vibration of circular arcs, treated as a two-dimensional problem (the vibrations in the plane of the arc) was investigated by H. Lamb [Proc. London Math. Soc. 19, 365–376 (1888)], I. P. Den Hartog [Philos. Mag. (7) 5, 400–408 (1928)], F. W. Waltking [Ing.-Arch. 5, 429–449 (1934)], and T. Ikebe [Sci. Papers Inst. Phys. Chem. Res. 34, 679–712 (1938)]. All the above mentioned investigators assumed that the bar is thin as compared with its length, thus neglecting the rotation of a cross-section, and that the central angle subtended by the arc is small. The elongation of the bar was neglected by some and taken into account by the others. The author of this paper neglects the elongation of the bar, neglects the rotation of a cross-section, but makes no assumption with regard to the central angle subtended by the arc; therefore some of his results can be applied to a circular spiral of a very small pitch. Using the conventional equations of motion including the variational principle of Hamilton, the author obtains a linear differential equation with constant coefficients of the 6th order. In the absence of external loads the right member is zero and the equation becomes homogeneous. The solution depends on the boundary conditions, which are given, and the character of the roots of the subsidiary equation. The author discusses at great length the different solutions depending on the different types of roots. The author investigates also the vibrations forced by a continuously distributed external load varying with time. This case requires finding the particular integral of the above mentioned differential equation. The main contribution is the method of solving the differential equation of motion.

T. Leser

Source: Mathematical Reviews, Vol 13 No. 8

DEMIDOVICH, B.P.

Demidovič, B. P. On a critical case of instability in the sense of Lyapunov. Doklady Akad. Nauk SSSR (N.S.) 72, 1005–1008 (1950). (Russian)

The author considers the nth order linear vector system $dx/dt=(A+B(t))x$, where A is a constant matrix which has the property that $n-1$ of its characteristic roots have negative real parts with the remaining characteristic root equal to zero, and $B(t)\to 0$ as [illegible] [illegible] er certain restrictions on the elements of B [illegible] n that the zero solution is stable, i.e., if $\|x(t_0$ [illegible] $)$, then $\|x(t)\|\leqq\epsilon$ for $t\geqq t_0$. ($\|x\|=\sum_{i=1}^{n}|x_i|$).

R. Bellman.

Source: Mathematical Reviews, Vol 12, No. 3

DEMIDOVICH, B.P.

380

Demidovič, B. P. On stability in the sense of Lyapunov of a linear system of ordinary differential equations. Mat. Sbornik N.S. 28(70), 659–684 (1951). (Russian)

The author considers the problem of determining the asymptotic behavior of the solutions of the linear differential equation $dy/dt=(A+B(t))y$ under certain assumptions concerning the constant matrix A and the variable matrix $B(t)$. He uses the method, first introduced by Cesari [Ann. Scuola Norm. Super. Pisa (2) 9, 163–186 (1940); these Rev. 3, 41] of considering the characteristic roots not only of A but also of $A+B(t)$. The results are too detailed to quote.

R. Bellman (Stanford University, Calif.).

Source: Mathematical Reviews, Vol 13 No 5

DEMIDOVICH, B. P.

Collection of problem and exercises in mathematical analysis. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry 1952.

DEMIDOVICH, B.P.

1

[illegible]

Demidovič, B. P. On some properties of the characteristic exponents of a system of ordinary linear differential equations with periodic coefficients. Moskov. Gos. Univ. Uč. Zap. 163, Mat. 6 (1952), 123–136. (Russian)

The system considered is (1) $\dot{x}=P(t)x$, where x is an n-vector and $P(t)$ a continuous matrix with period ω. The well known solutions rest upon the calculations of the characteristic exponents. The author given first an explicit equation for these. He then relates them to certain averaging processes. More precisely, supposing $0<\omega<\Omega$, and $P(t)$ uniformly bounded on this interval, likewise $\lim_{\omega\to 0}\omega^{-1}\int_0^\omega p_{ij}(t,\omega)dt=a_{ij}$ and $\|a_{ij}\|=A$, then one has Theorem 1: As $\omega\to 0$ the characteristic exponents of (1) tend to the characteristic roots of (2) $du/dt=Au$. He then proves Theorem 2: If $P(t)$ has period ω and either (a) $P(t)$ is symmetric with $P(t)=P(-t)$, or else (b) it is skew-symmetric with $P(t)=-P(t)$, then under (a) all solutions are bounded for all t, under (b) all solutions have period ω or 2ω.

S. Lefschetz (Mexico, D.F.).

1. KUDRIAVTSEV, V.A.; DEMIDOVICH, B.P.

2. USSR (600)

4. Mathematics

7. "Brief course of higher mathematics." V.A. Kudriavtsev, B.P. Demidovich, Reviewed by B.Ye. Margulis, Usp.mat.nauk 8 no. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

DEMIDOVICH, B.P.

One instance of almost periodicity of a solution for an ordinary differential equation of the first order. Usp.mat.nauk 8 no.6:103-106 N-D '53.
(MLRA 6:12)
(Differential equations)

DEMIDOVICH, B.P.; TSVETKOV, A.T., redaktor; MURASHOVA, N.Ya., tekhnicheskiy redaktor.

[Collection of problems and exercises in mathematical analysis] Sbornik zadach i uprazhnenii po matematicheskomu analizu. Izd. 2-e, ispr. i dop. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1954. 511 p. (MLRA 8:1)
(Functions)

DEMIDOVICH, B.P.

USSR/Mathematics - Harmonic functions averaged FD-1179

Card 1/1 Pub. 118-20/30

Author : Demidovich, B. P. (Moscow)

Title : Methodological note. Simple demonstration of the theorem on the mean value for harmonic functions

Periodical : Usp. mat. nauk, 9, No 3(61), 213-214, Jul-Sep 1954

Abstract : The author gives a direct demonstration to the following theorem: If $u=u(x,y,z)$ is a harmonic function in a R-neighborhood of point $M_0(x_0,y_0,z_0)$, then for any sphere S_r with center at M_0 the following formula holds: $u(x_0,y_0,z_0)=(1/4\pi r^2)\cdot\iint u(x,y,z)dS$ (r less than R). The usual demonstration of the theorem is based upon a single familiar formula in the theory of harmonic functions (i.e. the solutions of the Laplace equation), as given by S. L. Sobolev and by A. N. Tikhonov and A. A. Samarskiy (Uravneniya matematicheskoy fiziki [Equations of mathematical physics], State Technical Press, 1950 and 1953). The simpler demonstration involves use of the Gauss theorem of surface-volume integrals (Ostrogradskiy's formula).

Institution :

Submitted :

DEMIDOVICH, B.P.

USSR/Mathematics -Averaging of differential equations FD-1024

Card 1/1 Pub. 64 - 4/9

Author : Demidovich, B. P. (Moscow)

Title : Some theorems on averaging for ordinary differential equations

Periodical : Mat. sbor., 35(77), No 1, 73-92, Jul-Aug 1954

Abstract : The author treats the nonstationary nonlinear system of ordinary differential equations $dx_i/dt=f_i(t;x_1,..,x_n;a)$ $(i=1,2,..,n)$ which depends upon the small positive parameter a and which satisfies the usual conditions for the existence and uniqueness of solutions. He introduces the one-column matrices x and f (t,x,a); thus the above system is given by $dx/dt=f(t,x,a)$. Averaging of the matrix f(t,x,a) is defined as follows: $f(x) = (1/T) f(t,x,a)dt$ limit of $a \to 0$), where the integration is carried from o to T; here it is required that the limit not depend upon the choice of the number T. The main result of this article has been published without proof in the author's article "Generalization of N. N. Bogolyubov's principle of averaging," Dokl. Akad. Nauk SSSR, 96, No 4 (1954). The author's purpose in the present work is to transfer certain results of M. Fatou (1928) and N. N. Bogolyubov to the general system. Eight references, 7 USSR (e.g. F. S. Los', 1954),

Submitted : 7 April 1953

DEMIDOVICH, B. P.

USSR/Mathematics

Card : 1/1

Authors : Demidovich, B. P.

Title : About one generalization of the N. N. Bogolyubov averaging principle

Periodical : Dokl. AN SSSR, 96, Ed. 4, 693 - 694, June 1954

Abstract : Bogolyubov proved that the solution, $x = x(t,\varepsilon)$ of the system $\frac{dx}{dt} = \varepsilon X(t,x)$ and the solution $\xi = \xi(t)$ of an averaged system $\frac{d\xi}{dt} = \varepsilon X_0(\xi)$ are very similar, and under certain conditions this similarity can be secured at any arbitray finite section of the $O(\frac{1}{\xi})$ length. Los expanded this averaging theorem for the differential equations of Hilbert space. An example of application of the theorem to a more general system, i. e., $\frac{dx}{dt} = f(t, x, \varepsilon)$ is given. Three references: 1-French since 1928.

Institution : The M. V. Lomonosov State University, Moscow, USSR

Presented by : Academician N. N. Bogolyubov, April 2, 1954

Demidovich, B. P.

Call Nr: AF 1108825

Transactions of the Third All-union Matheamatical Congress, Moscow, Jun-Jul '56, Trudy '56, V. 1, Sect. Rpts., Izdatel'stvo AN SSSR, Moscow, 1956, 237 pp.

~~Some Types of Singular Integral Equations Solvable in Closed Form.~~ 48-49

Demidovich, B. P. (Moscow). Bounded Solutions of a Certain Non-linear System of Differential Equations. 52

DEMIDOVICH, B.P.

SUBJECT USSR/MATHEMATICS/Differential equations CARD 1/2 PG - 743
AUTHOR DEMIDOVIČ B.P.
TITLE On bounded solutions of a certain non-linear system of ordinary differential equations.
PERIODICAL Mat.Sbornik,n.Ser. 40, 73-94 (1956)
reviewed 5/1957

The author considers the system

$$\frac{dx}{dt} = Ax + \varphi(t,x,\mu), \tag{1}$$

where x is an n-dimensional vector, A is a constant matrix, φ is in a certain sense a "small" one-column matrix. All real parts of the characteristic numbers of A are different from zero. Necessary conditions for the existence, uniqueness and stability of a solution being bounded on the whole time axis are given, where the old results of Bohl (Bull. Soc. math. 38, 5-138 (1910)) are improved. Furthermore the continuous dependence of the solution on is shown. For a matrix $\varphi(t,x,\mu)$ being almost periodic in t the author gives sufficient conditions for the almost-periodicity of the bounded solution of (1). The obtained results partially are transferred to the more general system

$$\frac{dx}{dt} = P(t)x + \varphi(t,x,\mu)$$

Mat.Sbornik, n.Ser. 40, 73-94 (1956) CARD 2/2 PG - 743

(here P(t) is a periodic matrix such that the real parts of the characteristic exponents of the solutions of the corresponding linear system are different from zero). For the proof the topological pronciple of W. Ważevski (Ann. Soc.pol.math. 20, 279-313 (1947)) is used.

INSTITUTION: Moscow.

Demidovic, B. P.

1-FW

3

Demidovič, B. P. On the existence of a limiting regime of a certain non-linear system of ordinary differential equations. Moskov. Gos. Univ. Uč. Zap. 181. Mat. 8 (1956), 3–12. (Russian)

A finite symmetric matrix $A=(a_{ij})$ is positive [negative] definite whenever its characteristic roots λ_i [the $-\lambda_i$] are all positive. It is uniformly positive [negative] definite (=u.p.d., u.n.d.) whenever the λ_i [the $-\lambda_i$] are above a certain $h>0$.

Consider a system

$$(1) \qquad \dot{X}=F(X)+G(t),$$

where X, F, G are real n-vectors, F is of class C^1 in the components $x_1, \cdots, x_n$ of X for all values of these variables and $G(t)$ is continuous with period T. The author discussed above all the existence of a periodic solution to which tend all the other solutions.

Let $f_i(X)$ be the components of F and Ξ_i an n-vector with components ξ_{ij}. Consider the matrix $W=(f_{ix_j}(\Xi_i))$ and the related symmetric matrix $J(F)=\frac{1}{2}(W+W')$. Theorem 1. If $J(F)$ is u.p.d. or u.p.n. then (1) has a solution $X_0(t)$ of period T, and for $t\to\pm\infty$ all solutions tend to $X_0(t)$. Hence $X_0(t)$ is unique.

Suppose now that in (1) $G(t)$ is merely bounded for all t. Theorem 2. Under the same assumptions for F there exists then a bounded solution $X_1(t)$ to which all other solutions tend asymptotically and $X_1(t)$ is again unique.

S. Lefschetz (Mexico City).

DEMIDOVICH, B.P.

Boundedness of monotonic solutions of simultaneous linear differential equations. Usp.mat.nauk 12 no.2(74):143-146 Mr-Ap '57. (MIRA 10:7)
(Differential equations, Linear)

KUDRYAVTSEV, Vsevolod Aleksandrovich; DEMIDOVICH, Boris Pavlovich;
BAYEVA, A.P., red.; AKHLAMOV, S.N., tekhn.red.

[Short course in higher mathematics] Kratkii kurs vysshei matematiki. Izd.2., perer. i dop. Moskva, Gos.izd-vo fiziko-matem.lit-ry, 1959. 432 p. (MIRA 12:12)
(Mathematics)

SOV/2061

DEMIDOVICH, B.P.

PHASE I BOOK EXPLOITATION

16(1)

Baranenkov, G. S., Boris Pavlovich Demidovich, V. A. Yefimenko, S. M.
Kogan, G. L. Lunts, Ye. F. Porshneva, Ye. P. Sycheva, S. V. Frolov, R. Ya.
Shostak, and A. R. Yanpol'skiy

Zadachi i uprazhneniya po matematicheskomu analizu dlya vtuzov (Problems and Exercises in Mathematical Analysis for Vtuzes) Moscow, Fizmatgiz, 1959. 472 p. 40,000 copies printed.

Ed. (Title page): Boris Pavlovich Demidovich; Tech. Ed.: K. F. Brudno;
Ed. (Inside book): N. A. Ugarova.

PURPOSE: This book is approved by the USSR Ministry of Higher Education as a textbook for students of vtuzes, especially correspondence students and evening students specializing in mechanical engineering. It may also be used for independent study.

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Exercises in Mathematical (Cont.) SOV/2061

USAGE: The book is a collection of 3193 problems on higher mathematics (excluding analytic geometry) arranged in systematic order for vtuzes. At the beginning of each chapter a short theoretical introduction, necessary formulas, and solutions of more important typical problems are given. Answers are given for all problems, and for the more complicated ones hints and drawings are provided, making the book more useful to correspondence students. The authors give special attention to the more important parts of the subject, such as, calculation of limits, differentiation and integration technique, construction of graphs, application of differential and integral calculus, series, and solution of differential equations. Chapters covering these subjects, therefore contain more problems than the others. The authors thank Docent S. N. Kuz'min, Docent Ye.A. Lubny-Gertsyk, instructors N. V. Sakharov, G. V. Tolstova, and L. Z. Yudelevich, Professor A. P. Yushkevich, Docent I. N. Bronshteyn, Ye. A. Soboleva, the Moskovskiy energeticheskiy institut (Moscow Institute of Energetics) Vsesoyuznyy zaochnyy inzhenerno-stroitel'nyy insitut (All-Union Civil Engineering Correspondence Institute), Docent R. S. Guter, and N. A. Ugarova, editor of Fizmatgiz, for help in preparing the book. There are no references.

Card 2/10

PHASE I BOOK EXPLOITATION SOV/5285

Demidovich, Boris Pavlovich, and Isaak Abramovich Maron

Osnovy vychislitel'noy matematiki (Principles of Computing Mathematics) Moscow, Fizmatgiz, 1960. 659 p. 25,000 copies printed.

Ed. (Title page): B. P. Demidovich. Ed.: G. I. Biryuk. Tech. Ed.: S. N. Akhlamov.

PURPOSE: This textbook is intended for use in university-level courses in approximate computation methods. It may also be useful to persons working in the field of applied mathematics.

COVERAGE: The book describes systematically the most important modern methods and procedures of computing mathematics. Material is based on a general course in higher mathematics given in schools of higher technical education. Questions that go beyond the scope of the usual college course are also treated, and are indicated in the table of contents by asterisks. For a full understanding of the book, basic information on linear algebra and the theory of linear vector spaces is required. The book discusses the following problems: operations with

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approximate numbers, calculation of values of functions with the aid of series and integration processes, approximate and numerical solution of algebraic and transcendental equations, calculation methods of linear algebra, interpolation of functions, numerical differentiation and integrations, and the Monte-Carlo method. Special consideration is given to convenient methods for estimating errors. For almost all processes, proofs of the convergence theorems are presented. The authors thank the collective of the Department of Higher Mathematics at the Artilleriyskaya inzhenernaya akademiya im. F.E. Dzerzhinskogo (Artillery Engineering Academy imeni F.E. Dzerzhinskiy), as well as L.A. Lyusternik, G.P. Tolstov, N.P. Buslenko, E.Z. Shuvalova, D.M. Grobman, A.A. Yushkevich, Professor Kh. L. Smolitskiy, Docent S.V. Frolov, Docent R. Ya. Shostak, and the editor, G.I. Biryuk. There are 111 references: 110 Soviet (including 31 translations: 19 from English, 9 from German, 2 from Italian, 1 from French) and 1 German.

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DEMIDOVICH, B. P.

"About some nonlinear systems with Levinson's D-Property."

Paper presented at the Intl. Symposium on Nonlinear Vibrations, Kiev, USSR, 9-19 Sep 61

Moscow State University named after M. V. Lomonosov, Moscow

BARANENKOV, G.S.; DEMIDOVICH, B.P.; YEFIMENKO, V.A.; KOGAN, S.M.; LUNTS, G.L.; PORSHNEVA, Ye.F.; SYCHEVA, Ye.P.; FROLOV, S.V.; SHOSTAK, R.Ya.; YANPOL'SKIY, A.R.; UGAROVA, N.A., red.; SMOLYANSKIY, M.L., red.; BRUDNO, K.F., tekhn. red.

[Problems and exercises in mathematical analysis for shools of higher education] Zadachi i uprachneniia po matematicheskomu analizu dlia vtuzov. Izd.2., ispr. Moskva, Gos. izd-vo fiziko-matem. lit-ry, 1961. 472 p. (MIRA 14:8)
(Mathematical analysis—Problems, exercises, etc.)

29400
S/055/61/000/006/002/006
D251/D305

16.3400

AUTHOR: Demidovich, B.P.

TITLE: On the dissipativity of a certain non-linear system of differential equations. I

PERIODICAL: Moscow. Universitet. Vestnik. Seriya I. Matematika, Mekhanika, no. 6, 1961, 19 - 27

TEXT: Using certain of his earlier results and those of S.A. Samedova (Ref. 5: Izv. AN AzSSR, ser. fiz-matem. i tekhn. nauk, no. 2, 27 - 33, 1960) the author investigates the sufficient conditions for a non-linear ordinary differential equation $\vec{x} = x(t)$ with $t \geq T(\vec{x})$ to possess Levinson's D-property, i.e. to belong to some fixed bounded space D. The following results are established: Basic lemma: let $\vec{x} = (x_1, \dots, x_n) \in E^n$, $\vec{f}(\vec{x}) = [f_1(\vec{x}), \dots, f_n(\vec{x})] \in C1$ (D), where $f_i(x)$ $(i = 1, \dots, n)$ are real and D is a convex set of a material Euclidean space E^n. $\lambda(\vec{x})$ and $\Lambda(\vec{x})$ are the least and greatest eigenvalues respectively of Jacobi's symmetrizing matrix. Then

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for any points $\vec{x} \in D$ and $\vec{x} + \Delta\vec{x} \in D$

$$\lambda_m(\Delta\vec{x}, \Delta\vec{x}) \leqslant (\Delta\vec{f}(\vec{x}), \Delta\vec{x}) \leqslant \Lambda_M(\Delta\vec{x}, \Delta\vec{x})^* \qquad (1)$$

is satisfied, where $\Delta\vec{f}(\vec{x}) = \vec{f}(\vec{x} + \Delta\vec{x}) - \vec{f}(\vec{x})$; $\lambda_m = \min \lambda(\vec{\xi})$, $\Lambda_M = \max \Lambda(\vec{\xi})$ on the segment $\vec{\xi} = \vec{x} + t\Delta\vec{x}$ $(0 \leqslant t \leqslant 1)$ joining the points $\vec{x}$ and $\vec{x} + \Delta\vec{x}$. Theorem 1: The symmetric $n \cdot n$ matrix $A = A(\vec{x})$ $(\vec{x} \in D)$ is uniformly positive-definite in D if 1) Sylvester's conditions are fulfilled 2) there exists a positive number h such that

$$\frac{\Delta_n(\vec{x})}{[\mathrm{sp}\ A(\vec{x})]^{n-1}} \geqslant h > 0 \text{ for } \vec{x} \in D. \qquad (3)$$

Theorem 2: Let

$$\frac{d\vec{x}}{dt} = \vec{f}(\vec{x}, t) \qquad (5)$$

where $\vec{f}(\vec{x}, t) \in C(E^n \cdot I^+)$, $I^+ = (t < t < +\infty)$ $\vec{f}(\vec{x}, t_0) \in C^1(E^n)$ for every $t_0 \in I^+$, where τ is a number or ∞. If (1) there can be

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found a fixed symmetric positive-definite $n \times n$ matrix $A = [a_{ij}]$ such that the symmetrizing matrix

$$\mathcal{J}_s(\vec{x}, t) = \frac{1}{2} \{[A\vec{f}'_{\vec{x}}(\vec{x}, t)] + A\vec{f}'_{\vec{x}}(\vec{x}, t)]^*\}$$

is uniformly negative-definite in $E^n \cdot I^+$, then its greatest eigenvalue $\Lambda(x, t)$ satisfies in $E^n \cdot I^+$

$$\Lambda(\vec{x}, t) \leqslant -\alpha < 0 \qquad (6)$$

where α is a positive constant independent of $\vec{x}$ and t; 2) If $\vec{f}(\vec{0}, t)$ is bounded, then 1') system (5) is dissipative, and there exists a closed sphere $K_R = \{//\vec{x}// \leqslant R\} \subset E^n$ such that any solution $\vec{x} = \vec{x}(t)$ ($t_0 \in I^+$, $\vec{x}(t_0) \in E^n$) of (5) has the property $\vec{x}(t) \in K_R$ for $T(\vec{x}) \leqslant t < +\infty$, and hence $\vec{x}(t)$ is bounded on $[t_0, +\infty]$; 2') all solutions $\vec{x}(t)$ have asymptotic stability in entirety as $t \longrightarrow +\infty$, and the stability is of exponential type. The proof of this theorem uses the work of N.N. Krasovskiy (Ref. 5: Prikl. matem. i mekh., XXI, vyp. 5,

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307 - 319, 1957). Theorem 2a: (generalization) Let the vector function f(x, t) be as in Theorem 2. If the symmetrizing matrix has a greatest eigenvalue $\Lambda(\vec{x}, t)$ such that

$$\Lambda(\vec{x}, t) \leqslant -\alpha < 0 \qquad (6a)$$

with $//\vec{x}// \geqslant R_0 > 0$, $\underline{t} < t < +\infty$,

$$\Lambda(\vec{x}, t) \leqslant \beta < +\infty \qquad (6b)$$

with $//\vec{x}// < R_0$, $t < t < +\infty$, $//\vec{f}(\vec{0}, t)// \leqslant c < +\infty$ is satisfied, then (5) is dissipative. Theorem 2b: If instead of (6a) and (6b),

$$\Lambda(\vec{x}, t) \leqslant -\alpha(r) < 0 \qquad (6c)$$

is satisfied with $//\vec{x}// \geqslant r > 0$, $\underline{t} < t < +\infty$, where $\alpha(r)$ is a monotonic non-decreasing function of $\bar{r}$ ($\underline{t} < t < +\infty$) and $\vec{f}(\vec{0}, t) \equiv \vec{0}$ then the trivial solution $x \equiv 0$ of $(\bar{5})$ is stable in entirety as $t \to +\infty$. This result is proved by means of Lyapunov's theorem. There are 5 references, 4 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: N. Levinson, Transformation theory of non-linear differential equati-

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VAYNBERG, M.M.; VINOGRAD, R.E.; DEMIDOVICH, B.P.

Viktor Vladiiirovich Nemytskii; on his 60th birthday.
Usp. mat. nauk 16 no.1:201-212 Ja-F '61. (MIRA 14:6)
(Nemytskii, Viktor Vladimirovich, 1900--)

26132
S/040/61/025/004/011/021
D274/D306

16.3400

AUTHOR: Demidovich, B.P. (Moscow)

TITLE: Forced oscillations of quasilinear system in the presence of fast changing external force

PERIODICAL: Prikladnaya matematika i mekhanika, v. 25, no. 4, 1961, 705-715

TEXT: A linear homogeneous system of differential equations is considered:

$$\frac{dx}{dt} = P(t)\,x, \qquad x = \begin{bmatrix} x_1 \\ \vdots \\ x_n \end{bmatrix} \tag{1.1}$$

x is a real vector and P a real n x n matrix.

$$X(t, t_0) = X(t)\,X^{-1}(t_0) \qquad (-\infty < t < +\infty,\ -\infty < t_0 < +\infty) \tag{1.2}$$

is the fundamental system of solutions. System (1.1) (or the matrix P(t)) has the (α, β)-property if its Cauchy matrix $X(t, t_0)$ decomposes into two subsystems of solutions:

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$$X_\alpha(t, t_0) = X(t)\, AX^{-1}(t_0), \qquad X_\beta(t,t_0) = X(t)\, BX^{-1}(t_0) \qquad (1.3)$$

so that

$$X_\alpha(t,t_0)\| \leqslant ae^{-\alpha(t-t_0)} \text{ for } t \geqslant t_0, \quad \|X_\beta(t,t_0)\| \leqslant be^{\beta(t-t_0)} \text{ for } t \leqslant t_0 \qquad (1.4)$$

a, b, α, β, are a positive number; A and B are constant matrices, where $A + B = I_n$. System (1.1) has the (α,β)-property if P is a constant matrix. In the more general case, the property holds if (1.1) can be reduced to a system with a constant matrix, whose characteristic numbers have real parts different from zero. A lemma is proved about the matrix P(t); this lemma involves the non-homogeneous system

$$\frac{dy}{dt} = P(t)\, y + f(t) \qquad (1.6)$$

which has a forced solution

$$(t) = \int_{-\infty}^{+\infty} G(t, t_1)\, f(t_1)\, dt_1 \qquad (1.7)$$

The solution $\eta(t)$ of (1.6) necessarily exists if: a) the vector

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function f(t) is continuous and bounded on (- ∞, + ∞), or b) the matrix P(t) and the vector-function

$$F(t) = \int_0^t f(t_1)\,dt_1$$

are bounded and continuous on (- ∞, + ∞). Another lemma is proved: If P(t) and f(t) are almost periodic and P(t) has the (α,β)-property, whereby the homogeneous system (1.1) has no non-trivial forced solutions on the $-\infty < t < +\infty$-axis, then the solution $\eta(t)$ of (1.6) is almost periodic, too. On the existence of forced solutions of a quasilinear system, the system

$$\frac{dy}{dt} = P\,(t)\,y + f\,(\omega t,\,y,\,\mu) + e\,(\omega t) \qquad (2.1)$$

is considered, where μ is a small real parameter and ω a large positive parameter. The theorem is proved: There exists a positive constant μ_0 so that for $|\mu| < \mu_0$ the system (2.1) has at least one solution $\eta = \eta(t)$, bounded on the entire t-axis. /Abstracter's note: This is a generalization of Perron's theorem/. Corollary:

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If $f(t,0,\mu) \equiv 0$, then for sufficiently large ω, the amplitude of η is arbitrarily small. Another theorem is proved: Let quasilinear system (2.1) be such that the matrix P(t) as well as the vector functions f and e are almost periodic in t, and, moreover, system (1.1) have no non-trivial forced solutions on the t-axis. Then for $|\mu| \leqslant \mu_0$ the forced solution η (t) of (2.1) is almost periodic too. Corollary: If P(t) is periodic with period T/ω and the vector functions $f(t,y,\mu)$ and e(t) are periodic in t with common period T, then (by virtue of the theorem) the quasilinear system (2.1) is periodic with period T/ω. Next, the author examines the stability of regular forced solution of the quasilinear system. Theorem: Let the matrix P(t) have the (α,β)-property and the rank of $X_\alpha(t_0,t_0)$ be equal to m $(m \leqslant n)$; t_0 is fixed. Then (for $|\mu| \leqslant \mu_1$) the regular forced solution η (t) of quasilinear system (2.1) is conditionally asymptotically stable (according to Lyapunov) for $t \to +\infty$ on the set S_m^+ of solutions y(t) which depends on m parameters; the stability being of exponential type. Corollary I.: Let p be the rank of the matrix $X\ (t_0,t_0)$; then the regular forced solution η (t) of (2.1) is conditionally asymptotically stable for $t \to -\infty$ on the set of solutions

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S_p^{-} which depends on p parameters, the stability being exponential. Corollary II.: If the rank m of the matrix $X_{\alpha}(t_0,t_0)$ is equal to the order of system (1.1), then the regular forced solution $\eta(t)$ of (2.1) is exponentially stable (according to Lyapunov) for $t \to +\infty$. There are 16 references: 10 Soviet-bloc and 6 non-Soviet-bloc. The references to the English-language publications read as follows: A.B. Farnell, C.E. Langenhop, N. Levinson, Forced periodic solutions of a stable non-linear system of differential equations, Journ. of Math. and Phys., 1950, 19, no. 1, 300-302; J.L. Massera, J.J. Schäffer, Linear differential equations and functional analysis, I, Ann. of math., 1958, 67, no. 3, 517-573; N. Levinson, The asymptotic nature of solutions of linear systems of differential equations, Duke math. J., 1948, v. 15; C.E. Langenhop, Note on almost periodic solutions of non-linear differential equations. J. Math. and Phys., 1959, 38, no. 2, 126-129.

SUBMITTED: January 2, 1961

Card 5/5

25327

S/020/61/138/006/003/019
C111/C222

16 3400

AUTHOR: Demidovich, B.P.

TITLE: Bounded solutions of a certain quasilinear system

PERIODICAL: Akademiya nauk SSSR. Doklady, v.138, no.6, 1961, 1273-1275

TEXT: The author generalizes a theorem of (Ref.1: A.B.Farnell, C.E. Langenhop, N.Levinson, J.Math.and Phys., 29, no.1, 300 (1950)) on the existence and stability of forced harmonic oscillations of weakly non-linear systems of differential equations. The author considers the system

$$\frac{dx}{dt} = P(t)x, \qquad (1)$$

where x -- n-dimensional vector, $P(t) \in C(-\infty, +\infty)$ is an $n \times n$ matrix.
Definition: Let the system (1) (or the matrix P(t)) have the property (α, β) if its Cauchy matrix $X(t,t_0) = X(t)X^{-1}(t_0)$ decomposes into two subsystems

$$X_{\alpha}(t,t_0) = X(t)AX^{-1}(t_0), \quad X_{\beta}(t,t_0) = X(t)BX^{-1}(t_0)$$

(A and B are constant $n \times n$ matrices, where A+B = I) so that

$$\|X_{\alpha}(t,t_0)\| \leqslant a e^{-\alpha(t-t_0)} \quad \text{for } t \geqslant t_0; \qquad (2')$$

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$$\|X_\beta(t,t_0)\| \leq b e^{\beta(t-t_0)} \quad \text{for } t \leq t_0 \qquad (2'')$$

(a, b, α and β are positive constants).

Lemma 1. Let the matrix $P(t)$ have the property (α, β). Then for $t \neq t_1$ $(-\infty < t < +\infty,\ -\infty < t_1 < +\infty)$ there exists an $n \times n$ matrix $G(t,t_1) \in C^1$ so that

1) $G(t,t-0) - G(t,t+0) = I$;
2) $G'_t(t,t_1) = P(t)G(t,t_1)$ for $t \neq t_1$, $G'_{t_1}(t,t_1) = -G(t,t_1)P(t_1)$ for $t \neq t_1$;
3) $\|G(t,t_1)\| \leq c e^{-\gamma|t-t_1|}$ (c and γ -- positive constants);
4) every inhomogeneous system

$$\frac{dy}{dt} = P(t)y + f(t), \qquad (3)$$

where $f(t) \in C(-\infty, \infty)$, has a solution bounded on $(-\infty, +\infty)$

$$y(t) = \int_{-\infty}^{+\infty} G(t,t_1) f(t_1)\, dt_1 \qquad (4)$$

if the integral (4) on every finite interval converges uniformly in t

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and is bounded on $(-\infty, +\infty)$.

Lemma 2: If $P(t)$ and $f(t)$ are almost periodic and if (1) has no non-trivial bounded solutions then the solution $\hat{y}(t)$ (4) is almost periodic too.

The author considers the quasilinear system

$$\frac{dy}{dt} = P(t)y + f(\omega t, y) + e(\omega t), \qquad (5)$$

where $P(t) \in C(-\infty, +\infty)$ is bounded and has the property (α, β); $\omega \geqslant \omega_0 > 0$; $f(t, y) \in C(|t| < +\infty, \|y\| < +\infty)$ in y satisfies the Lipschitz condition with the constant L; $f(t, 0) \not\equiv 0$; $e(t)$ is continuous, $E(t) = \int_0^t e(t_1)dt_1$ is bounded.

Theorem 1: If L is sufficiently small then (5) has at least one solution $y = \hat{y}(t)$ bounded on $(-\infty, +\infty)$ for which $\|\hat{y}(t)\| \leqslant \frac{\Gamma}{\omega} \sup_t \|E(t)\|$, where Γ is a constant depending only on $P(t)$.

Theorem 2: If $P(t)$ is almost-periodic (periodic with the period T/ω), and if $f(t, y)$, $e(t)$, $E(t)$ are almost periodic in t (periodic with the period T), where the homogeneous system (1) with the matrix $P(t)$ has no bounded non-trivial solutions then the bounded solution $\hat{y}(t)$ of (5) is almost periodic (periodic with the period T/ω).

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Theorem 3: If the rank $X_{\alpha}(t_0, t_0) = n$, where n is the order of the system (1) then the bounded solution $\vartheta(t)$ is exponentially stable according to Lyapunov for $t \to +\infty$.
The author thanks V.V.Nemytskiy. There are 3 Soviet-bloc and 4 non-Soviet-bloc references. The references to the two English-language publications read as follows: A.B.Farnell, C.E.Langenhop, N.Levinson, J.Math. and Phys., 29, no.1, 300 (1950). C.E.Langenhop, J.Math. and Phys., 38, no.2, 126 (1959).

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova (Moscow State University im.M.V.Lomonosov)

PRESENTED: February 15, 1961, by A.N.Kolmogorov, Academician

SUBMITTED: January 4, 1961

Card 4/4

DEMIDOVICH, Boris Pavlovich; MARON, Isaak Abramovich; SHUVALOVA, Emma Zinov'yeva; LEVITAN, B.M., prof., retsenzent; SMOLITSKIY, Kh.L., prof., retsenzent; BIRYUK, G.I., red.; AKHLAMOV, S.N., tekhn. red.

[Numerical methods of analysis; approximation of functions, differential equations] Chislennye metody analiza; priblizhenie funktsii, differentsial'nye uravneniia. Pod red. B.P. Demidovicha. Moskva, Gos. izd-vo fiziko-matem. lit-ry, 1962. 367 p. (MIRA 15:4)
(Functions) (Differential equations)

KUDRYAVTSEV, Vsevolod Aleksandrovich; DEMIDOVICH, Boris Pavlovich;
BAYEVA, A.P., red.; KOLESNIKOVA, A.P., tekhn. red.

[Brief course in higher mathematics]Kratkii kurs vysshei matematiki. Izd.3., perer. i dop. Moskva, Fizmatgiz, 1962. 528 p. (MIRA 16:2)

(Matematics)

DEMIDOVICH, Boris Pavlovich; UGAROVA, N.A., red.; CHERNYSHEVA, L.Yu.,
red.; KRYUCHKOVA, V.N., tekhn. red.

[Collection of problems and exercises in mathematical analysis]
Sbornik zadach i uprazhnenii po matematicheskomu analizu.
Izd.5., dop. Moskva, Gos.izd-vo fiziko-matem. lit-ry, 1962.
544 p. (MIRA 15:9)
(Mathematical analysis—Problems, exercises, etc.)

33755
S/055/62/000/001/001/007
D299/D303

16.3400

AUTHOR: Demidovich, B. P.

TITLE: On the dissipatibility of a nonlinear system of differential equations. II

PERIODICAL: Moskva. Universitet. Vestnik. Seriya I. Matematika, Mekhanika, no. 1, 1962, 3-8

TEXT: A theorem is proved on the sufficient conditions of existence of an almost periodic solution of a nonlinear system. In Part I of the article [Abstractor's note: Source not stated, apparently an earlier issue of the same periodical.], the sufficient conditions were given for boundedness in the large of all the solutions of a nonlinear system on the positive semi-axis I^+ $(0 \leq t < +\infty)$. The nonlinear system is defined on the entire axis $I(-\infty < t < +\infty)$. The existence is proved of the solution $\vec{x}_0 = \vec{x}_0(t)$, bounded on the entire axis; the solution is almost periodic if the right-hand side of the nonlinear system is almost periodic in t. Theorem: Let

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$$\frac{d\vec{x}}{dt} = \vec{f}(\vec{x},t) \qquad (1)$$

where

$\vec{f}(\vec{x},t) \in C(E^n \times I)$, $I = \{-\infty < t < +\infty\}$ and $\vec{f}(\vec{x},t_0) \in C^1(E^n)$

for any $t_0 \in I$. If: 1) a constant, symmetrical, positive-definite nxn matrix A exists, so that the symmetrized matrix

$$\tilde{J}_s(\vec{x},t) = \frac{1}{2}\left[A\vec{f}'_{\vec{x}}(\vec{x},t) + \vec{f}'^{*}_{\vec{x}}(\vec{x},t)A\right]$$

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is uniformly negative-definite in E^n x I, then the maximum characteristic value $\Lambda(\vec{x},t)$ of the matrix $\tilde{J}_s$ satisfies the inequality

$$\Lambda(\vec{x},t) \leqslant -\alpha < 0 \text{ on } E^n \times I$$

(α being a positive constant); 2) $\|\vec{f}(\vec{0},t)\| \leqslant c < +\infty$ for $t \in I$, then a unique solution $\vec{x}_0 = \vec{x}(t)$ of system (1) exists, bounded on I and exponentially stable in the large for $t \to +\infty$, on each interval $\underline{t} \leqslant t < +\infty$. If (in addition to conditions 1) and 2)), the condition: $\vec{f}(\vec{x},t)$ is an almost periodic vector-function, holds, then the solution $\vec{x}_0(t)$ is almost periodic. Corollary: If $\vec{f}(\vec{x},t)$ is periodic with period ω for each $\bar{x} \in K_R$, then the bounded solution $\vec{x}_0(t)$ is also periodic with period ω. A further theorem is stated, giving

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the conditions under which system (1) has at least one bounded solution on I. As an example, the nonlinear system

$$\frac{dx}{dt} = f_1(x) + g_1(y) + e_1(t)$$

$$\frac{dy}{dt} = f_2(x) + g_2(y) + e_2(t) \qquad (7)$$

is considered. It is shown that this system has one and only one almost periodic solution. There are 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: J. Skowronski, S. Ziemba. The problem of boundedness of motion of certain mechanical systems. "Proc. vibrat. probl. PAN", no. 1, 67-81, 1959.

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On the dissipatibility of ...

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ASSOCIATION: Kafedra matematicheskogo analiza (Department of Mathematical Analysis)

SUBMITTED: December 14, 1960

X

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DEMIDOVICH, Boris Pavlovich; MARON, Isaak Abramovich; SHUVALOVA, Emma Zinov'yevna; KOPYLOVA, A.N., red.; SHKLYAR, S.Ya., tekhn. red.

[Numerical methods of analysis; approximation of functions, differential and integral equations] Chislennye metody analiza; priblizhenie funktsii, differentsial'nye i integral'nye uravneniia. Izd.2., ispr. i dop. Moskva, Fizmatgiz, 1963. 400 p. (MIRA 16:10)

(Approximate computation) (Mathematical analysis)

BARANENKOV, G.S.; DEMIDOVICH, B.P.; YEFIMENKO, V.A.; KOGAN, S.M.;
LUNTS, G.L.; PORSHNEVA, Ye.F.; SYCHEVA, Ye.P.; FROLOV,
S.V.; SHOSTAK, R.Ya.; YANPOL'SKIY, A.R.; BAYEVA, A.P., red.;
BRUDNO, K.F., tekhn. red.

[Problems and exercises in mathematical analysis] Zadachi i uprazhneniia po matematicheskomu analizu dlia vtuzov. Pod red. B.P.Demidovicha. Izd.4., ispr. Moskva, Fitmazgiz, 1963
472 p. (MIRA 16:10)
(Mathematical analysis—Problems, exercises, etc.)

DEMIDOVICH, Boris Pavlovich; MARON, Isaak Abramovich; BIRYUK, G.I., red.; AKHLAMOV, S.N., tekhn. red.

[Principles of computer mathematics] Osnovy vychislitel'noi matematiki. 2. izd., ispr. Moskva, Fizmatgiz, 1963. 659 p. (MIRA 16:6)

(Electronic computers) (Mathematics)

DEMIDOVICH, B. P. (Moscow)

"Stabilitat der Losungen nichtlinearer Systeme mit 'vollkommen richtigem' linearen Teil."

report submitted for 3rd Conf on Nonlinear Oscillations, E. Berlin, 25-30 May 64.

DEMIDOVICH, B.P.

An introduction to mathematical analysis. R.A. Rankin. Reviewed by B.P. Demidovich. Usp. mat. nauk 19 no.4:241-243 '64.

(MIRA 17:10)

TRUSKOLYAVSKAYA, T.V.; DEMIDOVICH, D.; POVARENNYKH, L.S.

From technical periodicals. Standartizatsiia 24 no.11:51-54 N '60.
(MIRA 13:11)

(Bibliography--Standardization)

DEMIDOVICH, G.F.

We need small switchboards. Avtom., telem. i sviaz' 7 no.6:42 Je '63. (MIRA 17:3)

1. Zamestitel' nachal'nika Korostenskoy distantsii signalizatsii i svyasi Yugo-Zapadnoy dorogi.

DEMIDOVICH, G.I.; KISLYAKOV, L.D.

Study of floatability of antlerite from the Udokan deposit.
TSvet. met. 38 no.4:21 Ap '65. (MIRA 18:5)

DEMIDOVICH, G.P. (Moskva)

Generalization of the criterion of Liapunov stability for regular systems. Mat. sbor. 66 no.3:344-353 Mr '65.

(MIRA 18:5)

DEMIDOVICH, I.F.; BELEN'KIY, Yu.Yu.

Design of a pneumatic suspension for heavy motortrucks. Avt.prom. no.9:14-16 S '60. (MIRA 13:9)

1. Minskiy avtomobil'nyy zavod.
(Motortrucks—Springs)

DEMIDOVICH, L.A. [Dzemidovich, L.A.]

Collector properties of terrigenous formations in the subsalt Devonian formation of the southern part of the Pripet Graben. Vestsi AN BSSSR.Ser. fiz.-tekh. nav. no.3:80-86 '63.

(MIRA 16:10)

BERSON, G.L.; DEMIDOVICH, L.V.

Some data on the jointing of Tertiary rocks of the Kamchatka Peninsula in connection with their reservoir properties. Trudy VNIGRI no.165:208-236 '61. (MIRA 14:8)
(Kamchatka--Oil sands--Permeability)
(Joints (Geology))

DEMIDOVICH, N.

Labor productivity is the main objective. Mast.ugl.4 no.8:4 Ag'55. (MIRA 8:10)

1. Mashinist kombayna shakhty "Polysayevskaya-1" kombinata Kuzbassugol'
(Kuznets Basin--Coal mines and mining)

30379
S/582/61/000/005/006/012
D222/D306

6.9500

AUTHOR: Demidovich~~, N. B. (Moscow~~)

TITLE: On the theory of group codes

SOURCE: Problemy kibernetiki, no. 5, Moscow, 1961, 105-121

TEXT: The author deals with the existence and uniqueness of group codes corresponding to a given distance matrix. This work is a further development of the author's graduate work, suggested by S. V. Yablonskiy. Help from Yu. I. Yanov and O. B. Lupanov is also acknowledged. The concepts of universal and canonical matrices are introduced by the following construction rules: A family of square matrices $\{U_{2^s-1}\}$ (the universal matrices) are constructed according to the recursive rules $U_1 = \|1\|$; then $U_{2^{s+1}-1}$ is obtained by writing each column of the preceding matrix U_{2^s-1} twice in sequence, adding a column on the left consisting only of zeros, writing a row under the obtained matrix in the form 1010...01, and

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writing a duplicate of the corresponding columns under the zeros of this row and the complementary duplicate under the 1's in this row. A code matrix is called canonical, if it consists of zero rows or is obtained from a universal matrix as follows: Every column of the universal matrix is either retained, repeated several times, or crossed out (the order of columns is preserved); a row of zeros is written above the matrix; several zero columns can be added on the left if necessary. A vector, whose components show how many times a certain column of the universal matrix is repeated, is called the characteristic of the canonical matrix. It is shown that for every group matrix there is at least one equivalent canonical matrix which is also a group matrix. The problem can now be reformulated in terms of a universal matrix; a canonical matrix; its characteristic and its distance vector. The following relationship holds among these $U_{2^s-1} \; {}_{2^s-1} = r_{2^s-1}$ which leads to a system of linear algebraic equations. The existence of a canonical matrix with a given distance vector depends on the sufficient and necessary condition that this system should have at least one solution

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represented by a collection of integer, non-negative numbers. The condition for this is expressed by the equation

$$\sum_{i=1}^{2^s-1} r_{0,i} = n \cdot 2^s-1 \qquad (7)$$

where n is the number of nonzero columns of the canonical matrix, and r_{2^s-1} is its distance vector. It is also shown that if two group codes have identical distance matrices, then they are equivalent. This gives the answer to the problem of uniqueness for group matrices with a given distance matrix. An analogous result for the distance vector cannot be formulated. There are 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc.

SUBMITTED: October 11, 1958

Card 3/3

USSR/Human and Animal Morphology - Muscles. S

Abs. Jour	: Ref Zhur Biol., No 5, 1959, 21521
Author	: Demidovich, N.M.
Inst	: All-Union Society of Anatomists, Histologists and Embryologists
Title	: The Morphology of the Palmar Aponeurosis
Orig Pub	: Sb. nauchn. rabot. Sverdl. otd. Vses. o-va anatomov, gistologov i embriologov, 1957, No 1, 53-55
Abstract	: The base of the palmar aponeurosis (A) consists of a tendinous plate, from which fibrous bands go to the skin, forming a cellular structure in the subcutaneous tissue (compact form of aponeurotic structure). In persons whose work is not associated with physical exercise, this plate is indefinite, and the aponeurosis is represented by poorly connected tendon fibers;

Card 1/2

DEMIDOVICH, N.M.

Structural characteristics of the intermuscular septa of the wrist, cellular tissue spaces and their relation to the blood vessels. Arkh. anat., gist. i embr. 48 no.5:81-89 My '65. (MIRA 19:1)

1. Kafedra normal'noy anatomii (zav. - prof. T.P. Gorbasneva) Sverdlovskogo gosudarstvennogo meditsinskogo instituta. Submitted June 15, 1964.

L 16096-65 EWT(m) DIAAP/ESD(gs)/AFETR

ACCESSION NR: AP5000312 S/0056/64/047/005/1671/1676

AUTHORS: Ovechkin, V. V.; Demidovich, N. N.

19 B

TITLE: Investigation of the Gamma radiation of Xe-137 and Xe-138

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47, no. 5, 1964, 1671-1676

TOPIC TAGS: xenon, gamma radiation, gamma spectrometer, quantum yield

ABSTRACT: This research is motivated by the contradictory nature of the existing data on γ radiation of Xe^{137} and the lack of data on the absolute yield of γ quanta per decay. At the same time, a check on the published data on radiation of Xe^{138} was also desirable. The investigated isotopes Xe^{137} and Xe^{138} were obtained in an aqueous solution of U^{235} bombarded by neutrons from a Po-Be source, moderated in paraffin, using the installation illustrated in Fig. 1

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of the enclosure. The gaseous fission products were carried away from the remaining solution by a helium stream, and the xenon isotopes were adsorbed on cooled activated charcoal. The measurements were made with a scintillation γ spectrometer. New data were obtained on the relative intensities and total quanta yields per γ decay of Xe^{137} and Xe^{138}, making it possible to obtain more exact decay schemes of these isotopes, as shown in Fig. 2 of the enclosure. The total γ quantum yields turned out to be 5 and 33% for the 0.15 and 0.44 MeV transitions of Xe^{137} and 5, 37, 23, 16, and 11% for the 0.16, 0.25, 0.42, 1.73, and 1.99 MeV transitions of Xe^{138}. "The authors thank I. Ye. Nakhutin for interest in the work and G. A. Loshakov and Yu. V. Linde for help with the work." Orig. art. has: 4 figures and 3 tables.

ASSOCIATION: None

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L 15096-65
ACCESSION NR: AP5000312

SUBMITTED: 23May64

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ENCL: 02

SUB CODE: NP

NR REF SOV: 002

OTHER: 007

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L 16096-65
ACCESSION NR: AP5000312

ENCLOSURE: 01

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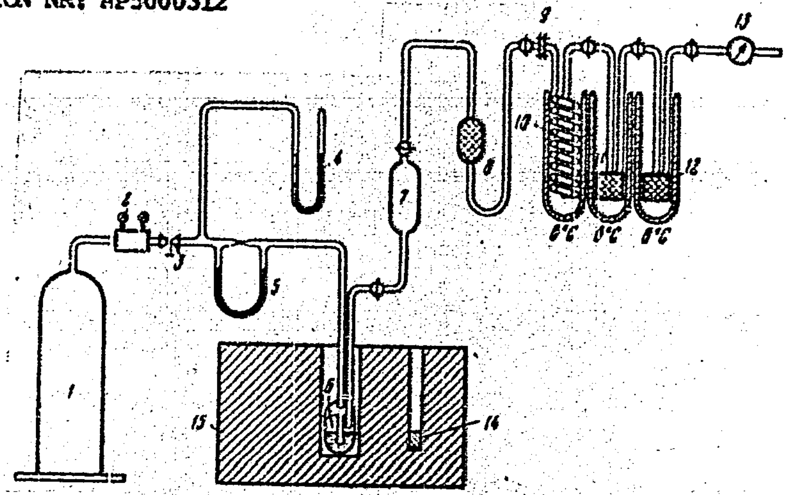

Fig. 1. Diagram of setup for the separation of Xe and Kr fission products. 1 - Flask with helium, 2- reduction valve, 3 - valve, 4 - oil manometer, 5 - rheometer, 6 - quartz ampoule with uranium solution, 7 - container, 8 - silical gel, 9 - aerosol filter, 10 - cooler, 11, 12 - activated charcoal, 13 - gas flow meter, 14 - neutron source, 15 - paraffin tank

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ACCESSION NR: AP5000312

ENCLOSURE: 02

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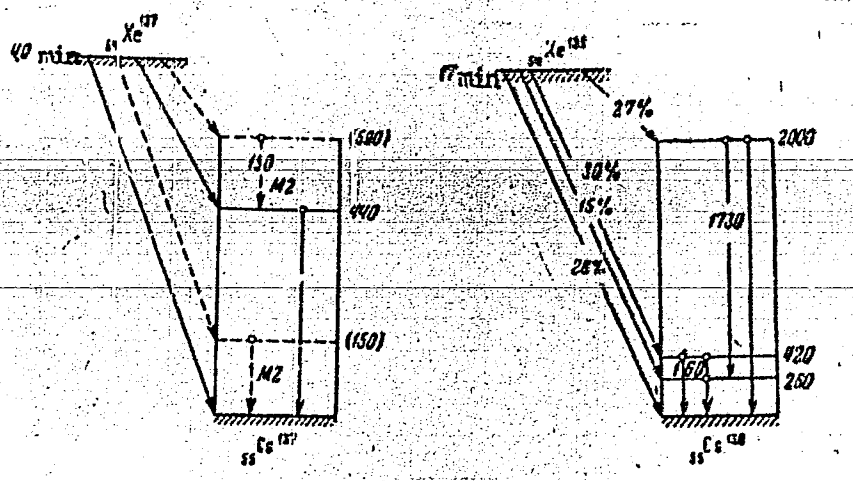

Fig. 2. -Decay schemes of Cs^{137} (left) and Cs^{138} (right)

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DEMIDOVICH, N. S.

Cand Tech Sci - (diss) "Increasing the longevity of coal combines by the method of vibro-arc melting of outworn parts." Moscow, 1961. 20 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Mining Inst imeni I. V. Stalin); 200 copies; price not given; (KL, 6-61 sup, 216)

SHILOV, P.M., doktor tekhn.nauk; KRIVOSHEYEV, A.Ye., doktor tekhn.nauk;
DEMIDOVICH, N.S., kand.tekhn.nauk; RUDNITSKIY, L.S., kand.tekhn.nauk;
FLOROV, K.V., kand.tekhn.nauk; SHAPOVAL, I.M., kand.tekhn.nauk;
OLEYNICHENKO, V.G., inzh.; ZAIKIN, N.A., inzh.; TITOV, A.I., inzh.

Replacing alloyed steels by high-strength cast iron in manufacturing machine parts. Mashinostroenie no.4:59-61 Jl-Ag '65.

(MIRA 18:8)

DEMIDOVICH, O.A.

[redacted]

Application of electrical methods to prospecting for fresh waters in semiarid regions. Razved. i okh. nedr 22 no.9:34-43 S' 56.
(MLRA 9:11)

1. TSentral'nyy geofizicheskiy trest.
(Prospecting--Geophysical methods) (Water, Underground)

BONDARENKO, V.M.; DEMIDOVICH, O.A.; TARKHOV, A.G.

First results of the combined use of geophysical methods of direct prospecting for diamond deposits in the Yakut A.S.S.R. Izv.vys. ucheb.zav.; geol.i razv. 4 no.2:118-132 F '61. (MIRA 14:6)

1. Moskovskiy geologorazvedochnyy institut imeni S.Ordzhonikidze.
(Yakutia—Diamonds) (Prospecting—Geophysical methods)

DEMIDOVICH, O.A.

Use of methods of mathematical statistics in exploration geophysics. Trudy MGRI 39:175-179 '63. (MIRA 16:10)

DEMIDOVICH, O.A.

Some results of the application of statistical processing to electric prospecting data. Izv. AN SSSR. Ser. geofiz. no.1: 40-54 Ja'64. (MIRA 17:2)

1. Moskovskiy geologorazvedochnyy institut im. S. Ordzhonikidze.

DEMIDOVICH, A.F., prof., doktor sel'khoz. nauk; DEMIDOVICH, V.A., agronom;
KURAMSHIN, T.V., red.; SAGITOVA, S.G., tekhn. red.

[Seed potato production and its particular aspects in the Tatar A.S.S.R.] Semenovodstvo kartofelia i ego osobennosti v Tatarskoi ASSR. Kazan', Tatarskoe knizhnoe izd-vo, 1960. 110 p. (MIRA 14:9)

(Tatar A.S.S.R.—Seed potatoes)

DEMIDOVICH, V.I.

PHASE I BOOK EXPLOITATION SOV/4601

Koordinatsnoye soveshchaniye po primeneniyu kisloroda na metallurgicheskikh zavodakh Urala. Sverdlovsk, 1956

Primeneniye kisloroda na metallurgicheskikh predpriyatiyakh Urala; materialy koordinatsionnogo soveshchaniya (Use of Oxygen in Metallurgical Plants of the Urals; Materials of the Coordination Conference) Sverdlovsk, 1960. 152 p. Errata slip inserted. 1,000 copies printed.

Sponsoring Agencies: Akademiya nauk SSSR. Ural'skiy filial. Institut metallurgii; Ural'skiye pravleniya nauchno-tekhnicheskikh obshchestv chernoy i tsvetnoy metallurgii.

Resp. Ed.: P.S. Kusakin, Candidate of Technical Sciences; Tech. Ed.: N.F. Seredkina.

PURPOSE: This collection of papers is intended for scientific research and technical personnel in the field of metallurgy.

COVERAGE: The use of oxygen in ferrous and nonferrous metallurgy of the Urals is discussed. Results of experimental use of oxygen in some metallurgical plants are presented. During the Conference, held December 20 and 21, 1956, the following persons (in addition to the authors) took part in the discussion: V.Ya. Miller, V.V. Mikhaylov, P.Ya. Sorokin, A.A. Perestoronin (all affiliated with the Institute of Metallurgy of the Ural Branch AS USSR), S.M. Kazachenko (Nizhne-Saldinskiy metallurgicheskiy zavod - Nizhnyaya-Salda Metallurgical Plant), M.F. Kochin (Deceased) (Ural'skiy institut chernykh metallov - Ural Institute of Ferrous Metals), M.Ye. Kislitsin (Chelyabinskiy metallurgicheskiy zavod - Chelyabinsk Metallurgical Plant), G.V. Demin (Krasnoural'skiy medeplavil'nyy zavod - Krasnoural'sk Copper Smelting Plant), V.A. Aglitskiy (Institut Unipromed' - "Unipromed'" Institute). Some of the papers are followed by references, both Soviet and non-Soviet.

Novolodskiy, P.I. [Nizhniy Tagil Metallurgical Combine]. Experimental Use of Oxygen in Open-Hearth Furnaces 43

Khudyakov, I.A. [Ural Scientific Research Institute of Ferrous Metals]. Use of Oxygen in Open Hearth Furnaces 57

Mikhaylikov, S.V., and V.N. Kryzov [Institute of Metallurgy of the Ural Branch of the Academy of Sciences USSR, Uralvagonzavod (Ural Railroad Car Plant)]. Experimental Use of Oxygen in the "Uralvagonzavod" 65

Rybakov, L.S. [Ural'skiy politekhnicheskiy institut imeni S.M. Kirova (Ural Polytechnic Institute imeni S.M. Kirov)]. Some Characteristic Features of Slag-Handling Technique in Steel Making With the Use of Oxygen 75

Krasovskiy, S.A. [Nizhne-Tagil'skiy filial Uralgipromeza (Nizhniy Tagil Branch of the Ural State Institute for the Design and Planning of Metallurgical Plants)]. Steel Making in Converters With the Use of Oxygen 87

Malikov, K.N. [Vsesoyuznyy nauchno-issledovatel'skiy institut metallurgicheskoy teplotekhniki (All-Union Scientific Research Institute of Metallurgical Heat Engineering)]. Operation of Gas Generators in the [Severskiy] Open-Hearth Plant, Using Oxygen-Enriched Blast 91

The following cooperated in this investigation: A.M. Polzunov, A.V. Demidovich, K.L. Tarkhan, N.D. Zimina, all staff members of the Severskiy Metallurgical Plant, and G.N. Suntsov, V.V. Ashpur, A.F. Moiseyeva, R.A. Kanova, V.G. Karevayeva, and Z.I. Sobyleva, all staff members of the Institute.

Demidovich, A.V. [Severskiy metallurgicheskiy zavod (Severskiy Metallurgical Plant)]. On the Effectiveness of Supplying Oxygen to Open-Hearth Furnace Ports and to Gas Generators 103

Smirnov, V.I. [Ural Polytechnical Institute imeni S.M. Kirov]. Experimental Use of Oxygen in Ferrous Metallurgy 107

Chernak, L.L. [Yuzhno-Ural'skiy nikelevyy kombinat (South-Ural Nickel Combine)]. Shaft-Furnace Smelting of Oxidized Nickel Ores With Oxygen-Enriched Blast 111

Diyev, N.P. (deceased), V.V. Paduchev, S.A. Vermenichev, and V.V. Toporova [Institute of Metallurgy of the Ural Branch of the Academy of Sciences USSR]. Use of Oxygen in the Copper Industry 117

Kochner, M.I., N.P. Diyev, I.M. Rafalovich, S.V. Rakitin, F.G. Yegorov, and G.S. Il'fand. Fire Refining of Copper With the Use of Oxygen-Enriched Air 129

Discussions 135

Resolution 150

20

DEMIDOVICH, S. V.: SHAROVSKIY, N. V.

Improvement of hygienic conditions in painting of interiors of locomotive tanks. Gig. i san., No 12, 1951.

DEMIDOVICH, V.M., kand.med.nauk; ROL'NIK, N.Ya.

Myoclonia of the soft palate and vocal cords. Med. zhur. Uzb. no.9: 64-65 S '61. (MIRA 15:2)

1. Iz kliniki nervnykh bolezney Tashkentskogo gosudarstvennogo meditsinskogo instituta.
(PALATE--DISEASES) (VOCAL CORDS--DISEASES)